We Claim

17. A process for the activation of a layered silicate for treatment of oils, fats and waxes comprising

preparing a layered silicate composition,

activating that layered silicate composition by treating the layered silicate composition with an acid-producing microorganism.

18. The process of Claim 17 wherein the layered silicate comprises a smectite clay.

19. The process of Claim 17 wherein the layered silicate comprises a montmorillonite clay.

20. The process of Claim 19 wherein the montmorillonite clay comprises a bentonite clay.

21. The process of Claim 17 wherein the layered silicate comprises a palygorskite clay.

22. The process of Claim 20 wherein the layered silicate further comprises a palygorskite clay.

23. The process of Claim 17 wherein the acid-producing microorganism comprises a sulfur-oxidizing bacteria.

24. The process of Claim 17 wherein the acid-producing microorganism comprises an iron-oxidizing bacteria.

25. The process of Claim 23 wherein the sulfur-oxidizing bacteria comprises Thiobacillus thiooxidans.

26. The process of Claim 24 wherein the iron-oxidizing

bacteria comprises Thiobacillus ferrooxidans.

27. The process of Claim 17 wherein the acid-producing microorganism produces citric acid.

28. The process of Claim 27 wherein the citric acid-producing microorganism comprises Aspergillus niger.

29. The process of Claim 17 further comprising breaking up the layered silicate composition prior to activation into clumps with a size from about 0.5 cm to about 5 cm.

30. The process of Claim 17 further comprising adding the acid-producing microorganisms to an inoculant material prior to activating the layered silicate composition with the microorganisms which have been added to the inoculant material.

31. The process of Claim 30 wherein the population of the microorganisms added to the layered silicate is from about 10^{5} to about 10^{10} bacteria/g of the inoculant material.

32. The process of Claim 17 further comprising maintaining the temperature of the layered silicate composition during activation within the range from about 20 to about 35°C.

33. The process of Claim 17 further comprising maintaining the water content of the layered silicate composition during the activating process within a range from about 15 percent by weight to about 70 percent by weight.

34. The process of Claim 30 wherein the inoculant material added to the layered silicate comprises about 5 to about 20 percent

of the overall composition after the inoculant material has been added.

35. The process of Claim 17 further comprising mixing and aerating the layered silicate composition while it is being activated with the acid-producing microorganism.

36. The process of Claim 35 wherein the activation process occurs for a period of time from about 1 to about 365 days.

37. The process of Claim 17 further comprising adding nutrients for the microorganisms to the layered silicate composition prior to activation.

38. The process of Claim 37 wherein the nutrients added comprise sulfur-containing products.

39. The process of Claim 17 further comprising adding small quantities of a dilute acid to the layered silicate composition prior to activation with the acid-producing microorganisms.

40. An activated layered silicate prepared by the process of Claim 17.

41. A process for decolorizing oils, fats or waxes comprising contacting the oils, fats or waxes with the activated layered silicate prepared by the process of Claim 17.

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